Toxicity test passed	1.7	mm	ABD 0031 (Issue:F), method: AITM 3.0005
Toxicity test passed	2.0	mm	ABD 0031 (Issue:F), method: AITM 3.0005
Burning behavior test passed	1.1	mm	UL 94 HB
Burning behavior test passed	1.2	mm	UL 94 HB
Burning behavior test passed	1.3	mm	UL 94 HB
Burning behavior test passed	1.4	mm	UL 94 HB
Burning behavior test passed	3.0	mm	UL 94 HB
Burning behavior test passed	2.0	mm	UL 94 V-0
Burning behavior test passed	2.4	mm	UL 94 V-0
Burning behavior test passed	3.2	mm	UL 94 V-0
Burning behavior test passed	4.0	mm	UL 94 V-0

Other properties	dry / cond	Unit	Test Standard
Density (lasersintered)	1060 / -	kg/m	EOS Method
Powder colour (ac. to safety data sheet)	White	-	-
Colour of the components	White	-	-

Characteristics

Processing

3D Printing, Additive Manufacturing, Laser Sintering, Rapid Prototyping

Delivery form

Powder

Additives

Flame retarding agent

Special Characteristics

Flame retardant

Features

High Crystallinity, Thermal Stability, Homopolymer

Chemical Resistance

General Chemical Resistance, Grease Resistance, Oil Resistance

Applications

Aircraft and Aerospace, Electrical and Electronical



PA 2210 FR

PA12 FR

EOS GmbH - Electro Optical Systems

Product Texts

Product Texts

Product information

PA 2210 FR is a polyamide 12 for processing in laser sintering systems with a halogen free, chemical flame retardant. In case of fire a carbonating coating arises on the surface of the part, isolating the plastic below.

Properties

- free of halogens
- higher stiffness compared to unfilled PA 12

Acceptance criteria

- JAR 25 (aviation)
- UL 94 (Electrical & Electronics)

Typical applications

- aviation (e.g. air ducts)
- plastic parts in devices and appliances (e.g. E&E housings)

3D Data	dry / cond	Unit	Test Standard			
The properties of parts manufactured using additive manufacturing technology (e.g. laser sintering, stereolithography, Fused Deposition Modelling, 3D printing) are, due to their layer-by-layer production, to some extent direction dependent. This has to be considered when designing the part and defining the build orientation.						
Tensile Modulus (X Direction)	2500 / 2400	MPa	ISO 527-1/-2			
Tensile Modulus (Y Direction)	2500 / 2400	MPa	ISO 527-1/-2			
Tensile Modulus (Z Direction)	2300 / 2200	MPa	ISO 527-1/-2			
Tensile Strength (X Direction)	46 / 43	MPa	ISO 527-1/-2			
Tensile Strength (Y Direction)	46 / 43	MPa	ISO 527-1/-2			
Tensile Strength (Z Direction)	41 / 38	МРа	ISO 527-1/-2			
Strain at Tensile Strength (X Direction)	4 / 6	%	ISO 527-1/-2			
Strain at Tensile Strength (Y Direction)	4 / 6	%	ISO 527-1/-2			
Strain at Tensile Strength (Z Direction)	3 / 4	%	ISO 527-1/-2			
Strain at break (X Direction)	4 / 7	%	ISO 527-1/-2			
Strain at break (Y Direction)	4 / 7	%	ISO 527-1/-2			
Strain at break (Z Direction)	3 / 4	%	ISO 527-1/-2			
Flexural Modulus (23°C, X Direction)	2300 / -	MPa	ISO 178			
Flexural Strength (X Direction)	65 / -	MPa	ISO 178			
Thermal properties	dry / cond	Unit	Test Standard			
Melting temperature (20°C/min)	185 / *	°C	ISO 11357-1/-3			
Flammability test passed	1.7	mm	CS 25 / JAR25 /			
			FAR 25 § 25-853			
			12s Ignition Time			
Flammability test passed	2.0	mm	CS 25 / JAR25 /			

Last change: 2013-11-07 Source: www.materialdatacenter.com

Smoke Density test passed

Smoke Density test passed

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FAR 25 § 25-853 12s Ignition Time

(Issue:F), method: AITM 2.0007

(Issue:F), method: AITM 2.0007

ABD 0031

ABD 0031

mm

mm

The data correspond to our knowledge and experience at the time of publication. They do not on their own represent a sufficient basis for any part design, neither do they provide any agreement about or guarantee the specific properties of a product or part or the suitability of a product or part for a specific application. It is the responsibility of the producer or customer of a part to check its properties as well as its suitability for a particular purpose. This also applies regarding the consideration of possible intellectual property rights as well as laws and regulations. The data are subject to change without notice as part of EOS' continuous development and improvement processes.

1.7

2.0